Marketfocus Report

A User's Guide to BPM

Business managers in many organizations, representing a wide range of industries, are looking for ways to improve operational efficiency. For many of these companies, Business Process Management (BPM) technology looks like a promising candidate. TIBCO Software, a solutions provider, commissioned Doculabs to develop this user's guide to help you understand what BPM is, what it can do for your organization, and what it takes for a successful BPM implementation.

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TIBCO at a Glance

TIBCO Software **Palo Alto, CA** **(650) 846-1000** **www.tibco.com**	
Founded	1997
Stock Symbol	NASDAQ: TIBX
Employees	1,030
2003 Revenues	$125.1 million (for the 6 months ended 5/31/03)
Office Locations	U.S.: Palo Alto (HQ), Minneapolis, Detroit, Chicago, Seattle, Newport Beach, San Diego, Denver, Dallas, Houston, Pittsburgh, Cambridge, New York, Bethesda, Columbus, Chapel Hill, Atlanta, Clear Water Canada: Calgary, Toronto South America: Sao Paolo Europe: London, Stockholm, Oslo, Rotterdam, Brussels, Paris, Munich, Milan, Rome, Madrid, Lisbon Asia: Beijing, Shanghai, Singapore, Seoul, Tokyo, Taipei Australia: Woy Woy, Sydney, Melbourne

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Executive Summary

Technology-savvy business managers have been hearing a lot about business process management (BPM) technology. BPM would seem to be the answer to all business problems, irrespective of your industry. It is also one of the hottest segments in the software industry, making it all the more difficult to separate hyperbole from reality.

Proof points are starting to emerge, however. The BPM vendors are building their installed bases, and many can point to reference sites that are real success stories. But while BPM is now more than a buzzword, it remains a confusing concept to many in the user community. At a time when technology dollars are at a premium, there is a clear need to understand precisely what BPM can do, and where the business benefits lie – for *your* company.

To help answer these questions, TIBCO Software commissioned Doculabs, a technology consulting firm with research and consulting experience, to develop this white paper. Designed to be the user's guide to BPM, this document takes a close look at business process management technology to help you understand what it is, what it can do, and how to go about selecting the BPM solution that best meets the needs of your organization. Finally, we also take a look at the prerequisites to a successful BPM implementation and examples of some forward-thinking organizations that are seeing the benefits of BPM technology. The contents of this guide are based on Doculabs' research in BPM technology, as well as on our extensive client experience and knowledge of best practices.

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What Is BPM?

BPM technology is a framework of applications that effectively tracks and orchestrates business process. BPM solutions automatically manage processes, allow manual intervention, extract customer information from a database, add new customer transaction information, generate transactions in multiple related systems, and support straight-though processing without human intervention when needed. BPM allows you to automate tasks involving information from multiple systems, with rules to define the sequence in which the tasks are performed as well as responsibilities, conditions, and other aspects of the process. But BPM not only allows a business process to be executed more efficiently, it also provides the tools to allow you to measure performance and identify opportunities for improvement – as well as to easily make changes in processes to act upon those opportunities.

In an increasingly competitive environment, your organization's business success depends on its ability to achieve efficiencies through effective management of its processes. Given that most business processes involve participants from multiple departments and organizations, and make use of information from multiple systems, BPM requires the integration of the participating applications, systems, and people into a single, integrated solution. What's needed is a way to orchestrate and manage methodically the interactions and tasks among human users and between disparate systems, in an automated fashion. Beyond process automation, however, BPM also provides an integration services framework, as well as business analytics and reporting capabilities. The information that is derived can then be presented in a manner that users can consume via a dashboard, portal, etc.

The concept of business process management is not new; technologies designed to improve the efficiency of processes, such as workflow and business process re-engineering tools, have been around for well over a decade. BPM, however, automatically manages the processes themselves, by accessing repositories, applications, knowledge workers, and/or databases at the appropriate point in the business process. They automate not just the flow of documents, but actions – actions such as extracting customer information or adding new information about a customer transaction, and then generating transactions in the multiple systems involved in the business process.

Advanced BPM solutions can support applications that require human intervention and those that can undergo straight-through processing without human intervention – as well as automated processes that require human intervention for the handling of

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exceptions. The processes managed by BPM can involve the interaction of disparate systems and large numbers of people, at distributed locations and potentially from external organizations. But it is the ability to allow human interaction within sophisticated business process flows, in addition to the basic automation of system-to-system processes, that sets BPM apart.

A further differentiator of BPM solutions is their ability to provide real-time visibility into business processes, monitoring a process across multiple systems, potentially on disparate platforms, even extending to external systems. They also provide different levels of visibility into your business process for different constituents within your organization (a business view for line-of-business users; a systems view for IT). Through a front-end dashboard, business users can establish metrics for measuring the health of the business and track progress. The result: all participants in the process can view the status of the process in real time, allowing them to manage the process both more effectively and proactively.

What specific types of business problems does BPM address? Not surprisingly, BPM is particularly well positioned for process-intensive industries such as financial services, insurance, healthcare, government, and manufacturing. Core business applications such as residential mortgage processing and claims processing, both of which involve manual labor and integration with multiple internal and external applications, are good candidates for BPM.

BPM is also ideal for applications that fit the definition of true straight-through processing, such as brokerage investment and settlement, payment processing, and new account processing in the financial services industry. These applications require a BPM solution with a significant level of multi-system integration, transaction control, and monitoring/analytics.

But BPM also makes sense for a wide range of routine business processes and so-called horizontal applications: accounts payable, procurement, order management, and human resources processes such as new hire set-up, to name a few. While processes in these areas may not be part of your core business, they're still likely to be human-intensive. Automating some of these processes can achieve considerable business benefit, as well as cost savings.

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What Does It Take to Be Successful with BPM?

The Challenges

A BPM implementation is likely to present far-reaching implications for your organization. And BPM initiatives tend to require considerable preparation beforehand. The major challenge, however, is that many companies do not understand their own processes well enough to model them; throwing a BPM solution into such a situation will only lead to more confusion. What we're seeing, however, among many of the early adopters is that a BPM initiative tends to uncover many opportunities for process improvement. As you and your organization begin to define your business processes by adopting a disciplined practice to formalize those processes, it's quite likely that you will also identify many areas in which you can use the technology to improve efficiency – in addition to the ones you originally targeted.

A further consideration is that the systems that a firm might seek to coordinate via straight-through or manual processes must be extensible beforehand. Many organizations make the mistake of trying to use the acquisition of a BPM tool as the enabler of these transactions, when often it should be thought of in the reverse.

To achieve the benefits of BPM, you need to consider the key characteristics of your business processes. The fact is, BPM solutions share many components, including process design tools, process engines, and integration components. But finding the vendor that provides the functionality required for your unique BPM application is the key to the ultimate success of your initiative. Defining your high-level requirements, and then taking the time to investigate the options in the marketplace and find the best fit, will put you in the best position in the long term.

How to Plan, Choose, and Roll Out a BPM Solution

In the current economic climate, any technology acquisition requires that you and your organization perform the proper due diligence. BPM, with its potential to impact multiple areas of your organization, is no different.

The technology planning and selection process can be broken down into the following phases:

- Information gathering
- Requirements development
- Product selection
- ROI calculation

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Information Gathering

During this phase, you should gather the necessary information to determine the key business drivers for BPM within your organization, the business and functional needs, and the general lay of the land with respect to your processing needs.

How do you determine whether what you need is BPM? After all, you might be able to meet your processing needs with a standard workflow solution, or even the process component within an existing legacy system such as an ERP, CRM, or supply chain management solution. In your decision-making process, what should tip the balance in favor of BPM?

Requirements Development

As in any technology decision process, there is no way to avoid a thorough analysis of your application requirements, and this should be the first step in any decision regarding BPM. We recommend that your application owners and business users conduct joint needs assessment sessions: first, to list out critical features and functions, and then to group these features and functions into like categories. Once you have a good understanding of your core needs, you can then determine if the features and functions that are key to BPM are what you need to address your business problems.

Among the core requirements that BPM solutions are designed to address are manual and/or straight-through processes (usually a combination), analytics and monitoring capabilities, data aggregation capabilities, document/content management support, deployment and integration environment, and integrated transaction management, failover/reliability, and a mechanism for integrating users.

With your high-level features in mind, determine whether the application you are considering requires any of these key BPM capabilities. If the answer is "yes," you can proceed to refine your requirements further – for instance, determining the level of manual versus straight-through processes, document/ content management, development and integration, and transaction management that you require. These factors will help you narrow the field of potential BPM products, helping you to ensure that the vendor you choose will be able to support a successful deployment of your solution.

Also consider whether the applications you are considering for BPM are business-critical applications that are common across your industry. Many BPM vendors with experience in particular vertical markets now offer "packaged" applications that address business processes specific to different industries. For example, if you are a financial services organization, seeking to automate applications such as

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brokerage investment and settlement, a BPM vendor with experience and pre-packaged workflows for straight-through processing of these applications may be the best solution, as well as the fastest to deploy. Other packaged applications include loan origination and credit issuance applications for the banking industry, and insurance claims processing, as well as horizontal applications such as accounts payable or human resources applications.

Vendors that offer packaged applications that meet your organization's needs definitely deserve your consideration. Such vendors not only have experience in implementing that type of application, they typically have also incorporated application-specific, best-practice deployment approaches that can get you up and running more quickly and effectively.

A warning to the buyer, however: Many vendors have recast themselves as providers of what they call "end-to-end BPM solutions," despite having a narrow tool set. It is important to look at the legacy of the software provided and see how long the full solution has been in place, and whether all components are integrated, or whether the product is little more than a loosely coupled collection of point solutions.

Product Selection

In a typical software selection, the product of this initial requirements definition is a list of finalists, consisting of vendors whose products more or less meet your core requirements, including the architectural requirements of your IT infrastructure. You can then develop a detailed RFP to issue to these vendors. The RFP process might also include small, focused proof-of-concept applications, if this makes sense for your organization.

But keep in mind that the vendor that meets the functional and technical criteria in the RFP is not always the automatic winner. Features and functionality count for a lot, but you should also consider factors such as the vendor's focus, vision, and strategy. Look closely at the vendor's reference customers, for instance. Are they representative of your industry? Then question the vendor with respect to its future development direction, its plans for future enhancements, and its commitment to solutions relevant to your organization. You should also evaluate the vendor's commitment to work with you to make your solution successful, the vendor's track record of reference accounts, its acceptance in the marketplace, and the viability of the vendor firm itself. After all, BPM is a bet-the-business decision, and you want a partner that will be around for the long term.

Finally, remember that it is the core requirements for your particular organization and your particular deployment that overlie all of these considerations. What satisfies a criterion

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for your situation may well be a "Does Not Meet" for another firm, and vice versa.

A Word about ROI

Considering today's bottom-line economy, any organization considering a major technology initiative such as BPM must be concerned about the return on investment (ROI) that it can expect to achieve from deploying the technology. CFOs are demanding that financial due diligence be performed prior to IT acquisitions, even more so if it's a business-critical technology decision such as BPM.

Once your organization understands the existing cost structures of its business processes and identifies potential areas of improvement, calculating the potential cost savings enables you to forecast the anticipated return on investment for implementing a BPM solution over any desired period of time, such as over a 3- or 5-year period.

But the business benefits of BPM are not limited only to cost savings. Many organizations that have rolled out a BPM solution are finding that there is no shortage of creative ideas, among both business users and IT, for ways to use the technology. And many of these ideas involve using BPM as a tool to increase bottom-line revenues or even to help penetrate new market segments. At this stage in the planning and procurement process, you will very likely have in mind a few target processes for BPM inside your organization. From there, it's only a matter of crunching the numbers to determine a realistic estimate of the hard dollars that the technology will save you once you have automated those processes. As many of the case studies are now starting to show, BPM can help your organization realize a very impressive return on its technology investment. So for purposes of making the business case for the technology, it's likely to be time well spent.

To sum up, then, here are the steps you should use to plan, choose, and roll out a BPM solution:

- **Gather information** to determine the key business drivers and processing needs for BPM within your organization
- **Analyze your application requirements**, looking to both your application owners and business users to define critical features and functions
- **Develop a list of finalists and issue an RFP**, keeping in mind factors such as the vendor's focus, vision, and strategy, as well as features and functionality
- **Perform financial due diligence** and calculate the ROI you expect to achieve from deploying BPM

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What Should I Look for in a BPM Solution?

You've now narrowed the vendor landscape to a short list of viable providers whose solutions address most of the requirements on your list. Now it's time to look closely at the BPM solutions themselves – from a technical perspective.

Features and Functionality

Enterprise-class BPM solutions consist of eight primary components. You should make sure that the BPM solutions on your list include the following key components, at a minimum:

- Design tools and user interfaces
- API/framework layer
- Process automation, workflow, and rules engine
- Data transformation
- Connectivity services
- Business activity management

The following figure shows the architectural stack of the components of a BPM solution and how these components fit together.

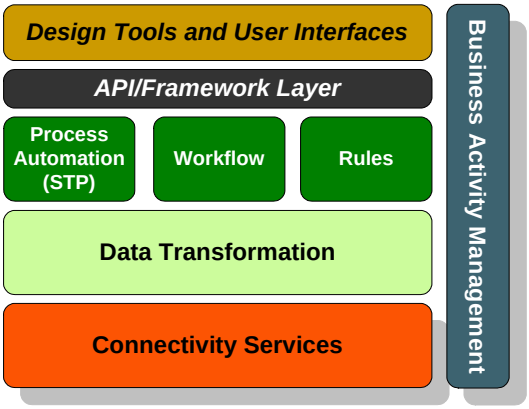

Figure 1 – BPM Architecture Stack

Design Tools and User Interfaces

At the top of the stack, the design tools and user interfaces serve as the workplace in which a line-of-business owner or business user can rapidly develop business process flows – flows that can include manual and fully automated tasks. These tools should be intuitive and easy for business users to use; most use a combination of drag-and-drop and point-and-click capabilities, coupled with graphical interfaces.

Once the business user has completed designing the process, IT can then tackle the development of the underlying logic that facilitates the interactions between disparate systems.

The trend among the market-leading BPM solutions is to serve as the bridge between business and technical users and allow them to work together in a collaborative fashion, rather than working in isolation, as is more typically the case. Each of these two user

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constituencies possesses knowledge that is complementary to the other. In fact, one of the major benefits of BPM is its potential to bring these two constituencies together for the benefit of the business. One can only surmise the business value that can derive from accomplishing this task alone. One thing is certain: the promise of BPM is to enable business users to reuse, maintain, configure, and fine-tune business processes with little to no involvement on the part of IT.

The following figure shows the process design environment provided by TIBCO Software's BPM solution.

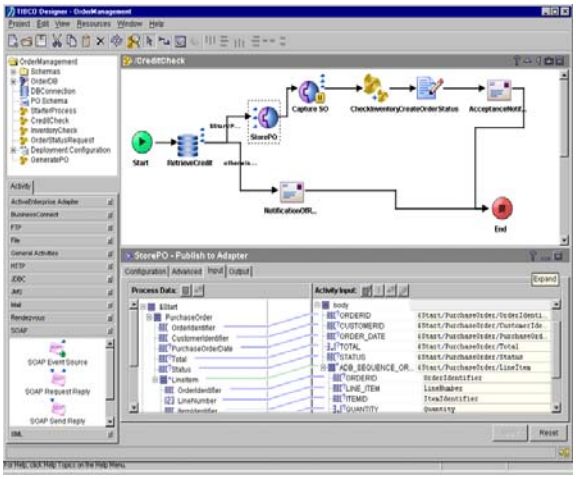

Figure 2 – TIBCO Process Design Environment

API/Framework Layer

The next layer down in the BPM architecture stack is the API framework. Most IT environments include a number of disparate systems. A product that offers a well-published application programming interface (API) can lend itself to further extending that product's capabilities, enabling it to be more flexible within heterogeneous environments. The BPM solution you choose should be versatile – capable of fitting into your environment with minimal impact upon your existing architecture.

But a comprehensive BPM solution should also provide ample functionality out of the box, minimizing the need to develop code or use APIs to interface with applications. After all, products that require less development effort ultimately reduce the overall cost of your initiative. They also help increase efficiency and improve time to benefit.

Look for a solution that supports standards such as web services to reduce the complexities of interconnecting your back-office applications.

Process Automation, Workflow, and Rules Engine

The middle layer of the stack is the heart of BPM: process automation, workflow, and the rules engine.

Process automation is a key capability inherent within BPM solutions. Limiting the amount of human involvement is an easy way to streamline processes, where systems automatically handle the handoff and execution of process tasks, based on predefined conditions.

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Automation also helps to greatly reduce error rates and reduce unit costs.

While automating business processes greatly increases efficiencies and reduces operational costs, it is likely that not all of your organization's processes, or even all steps of your processes, can be executed in this manner. Certain tasks in a process, such as exception handling, involve a level of creativity or subjective input that is impossible to automate and requires human involvement.

Traditional workflow functionality is complementary to process automation, and is inherent within enterprise-class BPM solutions.

The rules components inherent within BPM solutions help facilitate the interactions between resources, whether system to system, human to human, or a combination of the two. While processes by themselves simply move information from step to step, business rules can best be described as programmatic interpretations (programming code) that enable decisions to be made based on predefined conditions that act on data.

Solutions such as the TIBCO BPM offering provide two key characteristics to creating rule sets:

- The ability for business users to define and modify rules with little to no assistance from IT
- The ability to create feedback loops and self-tuning rules

It's important to note that rules are the antithesis of programming code, from a visibility point of view.

Data Transformation

Toward the bottom of the stack is the data transformation layer. Interactions between interconnected systems will sometimes require the exchange of data. But in order for the data to be consumed by a system, it must first be converted to a format it understands. Until recently, these types of data conversions could only be achieved through the implementation of a mapping engine.

Other aspects of transformation should also be taken into consideration. Normalization, for instance, is a part of the data transformation process that is frequently neglected. A degree of normalization must occur to ensure that inconsistencies between data sets are resolved.

Enterprise-class BPM solutions provide the necessary data transformation services to help facilitate the exchange of data between systems, alleviating the need for implementing these additional, third-party mapping engines.

Connectivity Services

Connectivity services, at the bottom of the architecture stack, are critical to BPM technology. This layer, at the base of the BPM framework stack, can be

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represented by a number of technologies, such as adapters, web services, integration servers, and messaging engines, to name a few. Ideally, a BPM solution should provide the ability to handle message events captured from messaging engines using a "unit-of-work" concept and support for transactional integrity and rollbacks.

Also, is important to understand that integration extends far beyond simply connectivity – i.e. the bridging of disparate applications together. Effectively integrating disparate applications requires proper management of metadata, objects, and transactions. And just as important is the ability to provide a high level of reliability.

In general, enterprise-class BPM solutions include mechanisms that enable organizations to integrate back-office systems using any one of the above integration methods. So it is imperative that organizations in the market for BPM technology ensure that prospective solutions provide this capability.

Business Activity Management

Business activity management (BAM) is a new component included within BPM solutions – shown along the right side of the BPM architecture stack in Figure 1. BAM capabilities allow your organization to measure the effectiveness of your business processes and provide analysis for improvements.

But why do you need BAM capabilities, if the main reason you're deploying BPM technology in the first place is to automate and improve the efficiencies of your processes?

The reason is that BAM lets you track the events and activities that are generated from the execution of business processes, with a view toward continuous improvement. The ability to track events and activities, along with analysis and metrics, allows you to present information with *contextual value* to decision makers, helping them to identify when and how decisions are being made, as well as to gauge the downstream effects of these decisions.

Product Architecture

The current trend in enterprise BPM is to describe the architecture as a Service Oriented Architecture (SOA). The concept is to expose critical business functions to the communication layer, thus enabling information sharing. The typical technology for enterprise-scale solutions is web services. The key characteristics to look for in the architecture are openness and extensibility, both of which are provided by a good modular design. Most vendors appear to be moving away from the use of embedded, proprietary application servers, which can be limiting in the long term.

In addition to an open architecture, it is important that the architecture allow the deployment of different components,

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such as the process engine and integration services, to different physical machines. This allows for growth of the system and better adaptability for load balancing and fault tolerance.

Depth versus Breadth

A key differentiator for BPM solutions is the depth of a solution across key areas that complement or extend the core functional areas described above. Most vendors offer deep, feature-rich solutions in one or more key areas of functionality, while providing just the basics in others.

Also consider the breadth of a BPM solution – which, in this context, refers to the completeness of the solution with respect to the entire array of the features that define it as BPM. Here, the technological heritage of a BPM solution may provide some clues. BPM products that have been built on EAI products, for instance, are likely to be stronger on integration and connectivity services, and somewhat weaker when it comes to workflow. Conversely, products built on workflow solutions are strong in process management capabilities, but might be weaker with respect to integration.

The "pure-play" BPM vendors – and there are a few of them out there – offer broad solutions, but in most cases do not have the years of process-related experience of the workflow vendors, or the level of integration expertise that the EAI vendors offer. Pure-play vendors may also be lighter when it comes to knowledge of other technologies, such as document management or content management. Vendors such as TIBCO, on the other hand, have been able to leverage their integration technology – a big piece of business process management – to enter the BPM market space.

To conclude, from the technical perspective, these are the areas you should be looking at as you consider a BPM solution:

- **Features and functionality –** design tools and user interfaces, API/framework layer, process automation, workflow, and rules engine, data transformation, connectivity services, business activity management
- **Product architecture** – openness and extensibility; modular design
- **Depth versus breadth of solution** – the areas of functionality that are most important to your organization

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What Should I Bring to the Table for a Successful BPM Implementation?

As you contemplate implementing a BPM solution, it's not enough to go through a careful procurement process. To help ensure a successful BPM implementation, your organization should bring a few things to the table, too – things that include:

- Executive-level sponsorship
- User buy-in
- Formation of a project team
- Understanding of deployment considerations
- Realistic milestones

Executive-level Sponsorship

Your organization should regard its BPM initiative as a strategic investment, designed to achieve a number of business benefits, both tangible and intangible. Obtaining support for the initiative from key stakeholders within the organization is first and foremost among the issues that must be addressed before you head down the BPM path.

But in most instances, BPM deployments are likely to touch, and have an impact on, a number of departments or business units. Obtaining executive-level sponsorship can go a long way toward ensuring the success of your BPM initiative.

User Buy-in

Just as important as executive-level sponsorship is getting the support of the rank and file – the business users who will be the ultimate end users, and beneficiaries, of your BPM initiative. Involve them early in the information gathering phase and give them a central role in the definition of requirements, both business and functional. For one thing, your users can help you make the business case for deploying the technology. But you will also need their participation and buy-in once it comes time to apply the solution to actual business processes. The roll-out to your lines of business is likely to proceed far more smoothly if you have done a good job of getting your business users on board; Telenor Group is a case in point (see Case Study, below).

Formation of a Project Team

Another critical success factor is the establishment of a project team for your BPM implementation. We recommend that this project team include an equal balance of IT users and line-of-business owners/business users – with IT users responsible for providing knowledge of the systems and the inter-relationships between linked systems, and business users responsible for providing the knowledge and understanding of business processes and the inter-relationships between participating parties (departments, third-party organizations, etc.).

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Some organizations are creating project management offices to serve as a liaison or intermediary between IT and the business units. This organizational unit is generally tasked with "translating" between IT and the business units. If your organization has such a functional unit, such individuals should definitely be part of your project team.

Understanding of Deployment Considerations

What is the scale of your proposed BPM deployment? Will you be deploying BPM at a departmental level, to automate a single, business-critical process? Or will you roll it out enterprise-wide, to automate a single process, or a wide range of more routine processes? Or will you start with something in between, with the option to scale larger in the future?

Again, this is a highly strategic decision. The scale of your deployment, whether department-level or enterprise, will greatly impact the type of solution you select, as well as the milestones for your implementation. In either case, the project team should identify what the business drivers and desired objectives are in order to make this determination.

Realistic Milestones

Irrespective of the scale of your deployment, the project team should establish realistic milestones for implementation of your BPM solution. Look back at the requirements that were defined early on in your needs assessment. Where are the biggest opportunities for process automation – the potential quick "wins" for your BPM initiative? Address these first so that you can achieve a few rapid successes and build credibility for the initiative within your organization. Particularly in the case of large-scale deployments involving multiple processes, the idea is to avoid biting off more than you can chew, which can compromise the overall success of the initiative.

But irrespective of the size of your deployment, give some thought to the idea of conducting a pilot. Rolling out a limited pilot or proof-of-concept implementation in a single business unit or a single business process can help you determine whether the system is effective at meeting its goals, whether the product is appropriate, and what changes are required before you move into full deployment.

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How Can I Measure the Success of BPM, and Ensure that Our System Continuously Improves?

Measuring Success

We've already discussed ROI as a projection that can help you make the business case for deploying BPM technology. You will certainly be comparing your actuals against the projected ROI, once the system is operational production and you've automated your target processes.

But there are other metrics to help measure your organization's success as a result of implementing a BPM solution. Some of the potential metrics include:

- Total cost of ownership (TCO)
- Operational efficiency
- Unit cost reduction

Total Cost of Ownership

Calculating your total cost of ownership (TCO) enables you to establish a baseline for comparing "before" and "after" results, which can be based on the total cost of running the business in its current state – how much does it cost your organization to conduct business transactions using existing processes? By improving the efficiency of executing business processes, your organization can effectively reduce its TCO for running the business.

Operational Efficiency

The primary characteristics of operational efficiency are cycle time and required resources, both of which can be used as units of measure. Cycle time is the total time required for executing your business processes from end to end and at a task level, and required resources are the total number of people and/or systems it takes to execute such business processes.

Plainly stated, the more time and resources that are required to ensure that processes are fully executed, the more money it costs your organization – all of which has a downstream impact on the customer in one way or another, whether from a servicing perspective or in the form of a financial penalty.

Furthermore, reducing human involvement in the process has several advantages. For starters, it greatly reduces the amount of time required to perform any given task within the process. Secondly, humans are prone to committing errors. Such errors cost the organization additional time and cost to correct. Much of this overhead can be avoided if human involvement was kept to a minimum.

Unit Cost Reduction

Improvements in your organization's operational efficiency translate directly into cost reduction, which in turn means hard-dollar cost savings to the organization. These are tangible benefits that directly impact the bottom line.

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There are a number of less tangible, "soft-dollar" benefits, further downstream of your improved processes. These additional benefits include positive impacts on customers, such as faster response time through improved customer service and lower upfront costs.

Ensuring Continuous Improvement

While the implementation of BPM technology provides organizations with plenty of tangible and intangible benefits, it is certainly not the be-all/ end-all answer to their problems. When all is said and done, and you have managed to select, acquire, and successfully deploy a BPM solution that meets most of your requirements, it is imperative that you and your organization continue to search for new ways to remain competitive.

Many organizations have adopted a methodology akin to Six Sigma, the management philosophy that advocates setting high objectives and then collecting data and analyzing results to determine the variance from those objectives. Such methodologies are often used to reduce defects in products and services; we recommend using it as a way of interrogating your processes to identify deficiencies and working systematically to eliminate them.

The following figure shows the four key phases of process life cycle management.

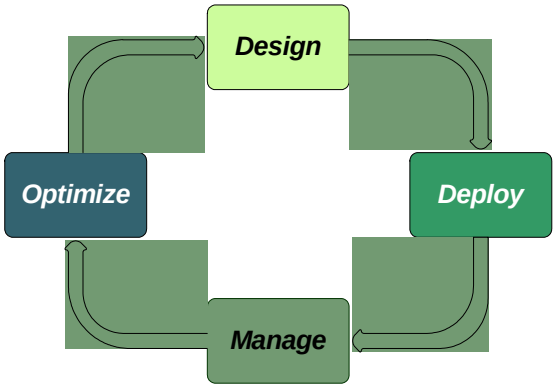

Figure 3 – The Phases of Life Cycle Management

Applying the concept of life cycle management to business processes can greatly ease the burden of making decisions. This methodical approach will enable key decision makers to use quantifiable information to determine and understand the impacts of process changes downstream.

Remember the BAM component of the BPM architecture stack? Recognizing that organizations must commit themselves to continuous improvement of their processes, BPM vendors are starting to include more BAM capabilities in their products to allow you to measure the effectiveness of your business processes and provide analysis for improvements.

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The BAM component provides the statistical information and the analytics you need to analyze a complete process with a detailed, end-to-end audit trail to learn about and improve such inefficiencies as resource bottlenecks and procedural delays.

Flexibility is equally important to continuous process improvement. Organizations must remain nimble – able to adapt rapidly to increasing dynamic business conditions. More important, organizations must be able to reuse its existing technology, while also being able to accommodate any future technologies that may be introduced into the architecture. No organization can afford to be locked into its IT architecture, as this will impede the ability to evolve the business and remain competitive. It is the strength of a BPM solution's integration capabilities and its ability to use data as part of the processes that can help a business address these issues.

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Case Studies

Here, we take a look at two organizations that are using TIBCO's BPM solution: US Bancorp and Telenor.

Case Study 1: US Bancorp

US Bancorp is the eighth-largest financial services holding company in the U.S., with assets in excess of $182 billion. The company operates more than 2,000 banking offices and 4,500 ATMs in 24 states, and provides a comprehensive line of banking, brokerage, insurance, investment, mortgage, trust, and payment services products to consumers, businesses, and institutions.

US Bancorp is committed to lowering the cost of doing business. Accordingly, the company sought to automate functions in several key areas of its business, including account management, transaction management, and program management.

But US Bancorp also knows that to support its customers and provide the best value to them requires innovative solutions – particularly in the highly competitive market spaces in which it operates. As one of the largest issuers of credit cards in the U.S., US Bancorp seeks to retain its existing customers and attract new customers to its offerings. Providing the best customer experience for credit card program management and individual transaction management required careful consideration of the underlying issues, as well as selection of the right technology solution.

The critical factor for US Bancorp was finding a solution capable of handling its extremely large and complex transaction stream. These functions were coded in a variety of technologies, the more complex transactions having been developed with Java or C++ in the distributed platforms and MDP/MQ in the mainframe platforms. Automation would have required considerable custom coding. In addition, some US Bancorp customers required workflow-enablement of certain functions – a capability that the company could not easily support with its existing development platforms.

In 2001, US Bancorp undertook a formal technology evaluation and selection process toward the procurement of a BPM solution, with the objective of providing a highly efficient development environment. Requirements were developed by representatives of both the US Bancorp business units and Technology areas. Among the key requirements for a solution were:

- Scalability
- Fault tolerance
- Ability to easily integrate to US Bancorp's varied systems platforms (including Java, MQ Series, CICS, Cobol, etc.)

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- Flexibility to adjust to variations in throughput
- Support for both distributed and mainframe platform integration
- Support for transaction workflow for complex transactions

US Bancorp evaluated a number of potential solutions, including products from WebMethods, Vitria, and TIBCO, as well as in-house tools. The decision to deploy the solution from TIBCO was based primarily on US Bancorp's top challenge – the scalability requirement. With more 350,000 active users and a transactional datamart of more than a quarter-billion rows, the ability to scale to this level on a web-based offering was a critical consideration.

US Bancorp's BPM implementation was rolled out in phases. Phase 1 targeted Account Management Functions, functions that are heavy in both system-to-system and people-to-people workflow. Next, in Phase 2, were the transaction management functions, which are heavier in transaction processing, statement presentment, accounting interfaces, and file transfer. The last phase addressed program management functions, which are heavier in bulk-loading of cardholder data and also required moving a significant number of users from other systems to the new system of transaction management. Each phase of the deployment included significant reporting development.

The first two phases were completed in April of 2002 and November 2002, and the last phase was complete as of February of 2003 with regard to functionality. The total duration of the initiative, for all of these phases combined, was 24 months.

According to John Collins, US Bancorp's VP of Enterprise Delivery Systems, the TIBCO implementation has been a resounding success, and has led to the adoption of TIBCO as an Enterprise Technology Standards within the US Bancorp environment. TIBCO is now a large part of the new US Bancorp strategic middleware architecture currently under development. Says Collins, "The next step is to refine our strategic architectural direction and to utilize TIBCO to replace some of our existing technology standards."

Case Study 2: Telenor

Telenor is a Norwegian telecommunications group and a pioneer in mobile communications, with extensive business operations in 16 countries in Europe and Southeast Asia. Telenor's largest area is mobile communications; it also has satellite operations covering large parts of the world.

The company's core business is providing solutions that increase the benefits of modern communications technology for both individuals and business customers. As a company, Telenor wanted to improve its order

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distribution process in a number of ways: improving its quality, increasing its efficiency, and reducing its cycle times. The goal was to help save costs and improve service by unifying manual and automated processes, and by reducing or streamlining exception handling.

An example of specific area in which Telenor wanted to improve its order distribution processes was in managing interactions with external parties for installation services. Historically, Telenor's installation service was handled in-house and geared toward a single supplier. Certain process tasks were coded within the applications themselves, which resulted in disconnects between tasks and required users to be aware of the current state of the process.

When moving to external suppliers of installation services, Telenor decided to implement a BPM solution. In late 2000, the company initially established a project plan for the first phase: defining its requirements, selecting an appropriate BPM solution, rolling out a pilot implementation and then the final solution.

Telenor undertook a formal requirements gathering initiative, and developed an RFP that it sent to more than a dozen BPM vendors. After considerable due diligence, the company selected TIBCO's solution.

Some of the reasons that Telenor cited for selecting TIBCO included TIBCO's:

- Solution functionality and robustness
- Knowledge and references relevant to a telecom operator
- Availability of expertise to assist Telenor with the launch
- Overall focus

Telenor completed its first phase (including its pilot rollout) with TIBCO in approximately 18 months. The company is currently in the midst of the second phase, which involves automating order processing for leased lines. In the third phase, Telenor plans to add even more processes to the framework, including processes related to its ISDN/PSN services, which are higher-volume processes with operations-specific tasks. In addition, the third phase calls for incorporating a full lifecycle implementation approach into the initiative.

Telenor considers its progress to be a success. For example, the company estimates that it has experienced an approximately 40 to 50 percent return on investment, as measured by its own key performance indicators – thanks to savings in areas such as reducing the prices paid to contractors..

Telenor notes that key success factors to any BPM initiative center around commitment and focus. For example, to fully document processes down to the

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lowest level requires significant focus and effort – but it is one of the keys to reaping the full benefits of a technology solution that is designed to manage, automate, and optimize those processes. In addition, Telenor emphasized the critical need for IT and business users to provide input and to work together in a coordinated fashion to make the implementation a success.

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The Final Word

Many organizations today are seeking to improve operational efficiencies, meet customer demands more quickly, and leverage their existing technology investments. Process-intensive industries such as government, financial services, insurance, healthcare, and manufacturing are looking for technology to help them meet these critical needs – and, for many organizations, BPM increasingly looks like a promising candidate.

Unlike workflow or business process re-engineering, BPM has the potential to deliver the benefits of process efficiency throughout all stages of a business process, to all areas of the organization – and even beyond the boundaries of the organization. The combination of an integration services framework and process automation, together with business analytics and reporting capabilities, is a powerful one. Not only does it allow you to achieve greater efficiencies by automating your processes, it also provides you and other business users within your organization the tools and the real-time information you need to make informed decisions. And BPM can also help you reduce your total cost of ownership and realize ROI within a short timeframe – good news for your investors.

For anyone considering a BPM initiative, the bottom line is that BPM is likely to be a key technology component that will play a vital role in the overall enterprise architecture. There's little doubt that a BPM initiative is a highly strategic investment, capable of delivering a wide range of business benefits, both tangible and intangible, and that a BPM solution represents an integral component of an enterprise architecture strategy.

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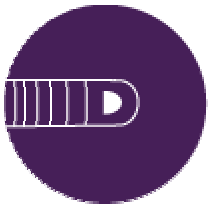

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